

## Original Article

# Investigation of *Giardia intestinalis* Genotypes among the Food Handlers of Qazvin, Iran

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## Abstract

**Background:** We aimed to investigate the genotypes of *Giardia intestinalis* among the food handlers in Qazvin, Iran.

**Methods:** Overall, 1530 stool specimens were collected from the food handlers who visited Shahid Bolandian Health Center, Qazvin, Iran during 2016. Specimens were evaluated by microscopic and concentration methods. Twenty specimens with appropriate number of giardia cysts were selected followed by DNA extraction. Determination of giardia genotypes was achieved through PCR and sequencing the glutamate dehydrogenase gene. The phylogenetic tree was drawn using the MEGA7 software. Finally, the data were analyzed statistically with a  $P$ -value  $< 0.05$  was considered as significant.

**Results:** Twenty stool samples (1.3%) were positive for *Giardia* cyst. All positive specimens were obtained from male participants with abdominal cramp being their most common symptoms. The mean age for infected individuals was 32 yr.

Molecular characterization was successfully performed for 17 isolates and two genotypes A (AII, 65%) and B (BIII, 35%) were identified.

**Conclusion:** The most prevalent giardia genotypes among the food handlers in Qazvin were A (AII) and B (BIII) genotypes with A (AII) genotype as the dominant one in the region. Considering the direct association between the food handlers and public health as well as the impact of geographical and host conditions on dispersion and pathogenicity of various genotypes and their zoonotic aspects, further investigations are necessary.

**Keywords:** Giardia; Food handlers; Glutamate dehydrogenase gene; Iran

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